

BUKAKA CLUSTER EXAMINATIONS

312/1 GEOGRAPHY

END OF TERM 1 - 2025

MARKING SCHEME

FORM 4

SECTION A

Answer all the questions in this section.

1 (a) State two effects of centripetal force on the shape of the earth. (2 marks)

- ❖ *Pulls the poles towards each other*
- ❖ *Causes flattening at the poles*

(b) (i) What is penumbra? (1 mark)

- ❖ *It is the partially dark shadow formed during solar/lunar eclipse.*

(ii) Identify two external layers of the earth. (2 marks)

- ❖ *The atmosphere*
- ❖ *The hydrosphere*

2 (a) Name three types of fog. (3 marks)

- ❖ *Steam fog*
- ❖ *Hill fog*
- ❖ *Advection fog*
- ❖ *Frontal fog*
- ❖ *Radiation fog*

(b) The table below shows temperature figures for station X.

Month	J	F	M	A	M	J	J	A	S	O	N	D
Temp ⁰ C	24	22	23	24	22	20	19	19	24	26	26	27

Calculate the mean annual temperature. (2 marks)

$$\begin{aligned}
 &\text{❖ } \text{mean} = \text{total temperature} / 12 \\
 &\quad = 276 / 12 \\
 &= 23^{\circ}\text{C}
 \end{aligned}$$

3 (a) Name the two continental landmasses that were formed due to break up of pangaea. (2 marks)

- ❖ *Laurasia to the North*
- ❖ *Gondwanaland to the South*

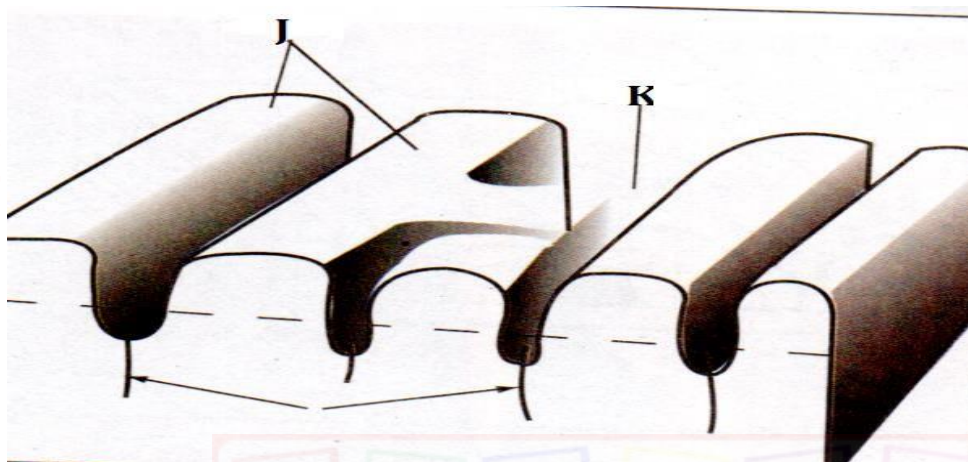
(b) Identify three plate boundaries associated with plate tectonic movements.(3 marks)

- ❖ *Extension/constructive boundaries*
- ❖ *Compression/destructive boundaries*
- ❖ *Transform fault/conservative boundaries*

4. (a) What is a spring? (2 marks)

- ❖ *It is a natural outflow of underground water through a point onto the earth's surface.*

(b) The diagram below shows surface features found in a Karst landscape.



Identify the parts marked J and K. (2 marks)

- ❖ *J- Grikes/gryke*
- ❖ *K- Clint*

5. (a) How does deflation process of wind erosion occur. (2 marks)

- ❖ *Dry/unconsolidated materials on the desert are lifted off the surface/rolled by the wind.*

(b) State four factors that influence wind transportation. (4 marks)

- ❖ *The speed/force of the wind.*
- ❖ *The nature of the load carried by the wind.*
- ❖ *The intervening obstacles on the wind path*
- ❖ *Weather changes/sudden rainfall*

Section B

Answer question 6 and any other two questions from this section

6. Study the map of TAMBACH provided and answer the questions that follow.

(a) (i) Name two human features in grid square 7968. (2 marks)

- ❖ *Plantation*

❖ *Settlement/huts/houses*

❖ *Footpath*

(ii) Measure the distance of River Kerio between grid reference 908570 and grid reference 898620. (2 marks)

❖ *4.3 km (4.2-4.4 km)*

(iii) Give the longitudinal extent of the area covered by the map. (2 marks)

❖ *35° 30' E to 35° 45' E*

(b) (i) Calculate the area of Kaptagat forest. Give your answer in square kilometres. (2 marks)

❖ *A=Full squares+ (half squares/2)*

❖ *A=0+9/2*

❖ *4.5 Km² (4.0-5.0 Km²)*

ii) Citing evidence from the map, state two social services offered in the area covered by the map. (4 marks)

❖ *There is education services as evidenced by the presence of schools.*

❖ *There are health services as evidenced by health centers and dispensaries.*

❖ *There are administration services as evidenced by Chiefs office*

❖ *There are religious services due to presence of missions*

❖ *There are recreational services as evidenced by stadiums/ Rest houses.*

iii) Name two districts in the area covered by the map. (2 marks)

❖ *Elgeyo Marakwet*

❖ *Baringo*

❖ *Uasin Gishu*

c) Describe the drainage of the area covered by the map. (5 marks)

❖ *The area has many permanent rivers.*

❖ *The main river is River Kerio.*

❖ *Some rivers flow from Elgeyo escarpment and form parallel drainage pattern/ some tributaries of River Kerio are forming a dendritic drainage pattern*

❖ *There is Lake Kamnorok in the area covered by the map.*

❖ *The area has seasonal swamps, papyrus swamp.*

❖ *Some rivers meanders and have tributaries.*

❖ *There is a water fall in the South Western side of the area covered by the map.*

- (d) Citing evidence from the map, explain three physical factors which may favor cattle rearing in the area covered by the map. (6 marks)

- ❖ *Large tracts of land for grazing as there are few settlements.*
- ❖ *Availability of pasture for grazing animals since there are scrubs.*
- ❖ *Presence of rivers/lake/seasonal swamps for watering animals*
- ❖ *Gentle slopes evidenced by widely spaced contours for easy movement of animals*

7. (a) (i) What is a lake? (2 marks)

- ❖ *It is a large mass of water occupying a depression on the earth's surface.*

- (ii) State three factors that influence the depth of a lake. (3 marks)

- ❖ *The nature of the depression*
- ❖ *The amount of the inflow of water.*
- ❖ *The amount of outflow of water /evaporation/seepage*

- (iii) State four characteristics of Lake Turkana. (4 marks)

- ❖ *The lake is narrow*
- ❖ *The lake is steep sided*
- ❖ *The lake is long*
- ❖ *The lake is deep*
- ❖ *The lake is fresh.*

- (b) Describe the processes involved in the formation of the following types of lakes.

- (i) Oasis (4 marks)

- ❖ *A pre-existing depression in the desert is exposed to wind deflation/abrasion*
- ❖ *The depression is enlarged and deepened gradually.*
- ❖ *Eventually the depression reaches the water table/aquifer.*
- ❖ *Water oozes out of the ground and collects into the depression forming an oasis.*

- (ii) Lava Dammed lake (4 marks)

- ❖ *Earth movement forms fault line/fissure/vent across a river.*
- ❖ *Volcanic eruption occurs through the fault.*
- ❖ *The lava cools and solidifies forming a dam/ridge/wall across the river.*
- ❖ *Water collects behind the dam/ridge/wall to form a lava dammed lake.*

- (c) Explain two negative influence of lakes to human activities. (4 marks)

- ❖ *Lakes are habitats for mosquitoes/snails which cause malaria/bilharzia respectively*
 - ❖ *Lakes are habitats for dangerous animals like crocodiles and hippos which kill people and destroy property.*
 - ❖ *Construction of manmade lakes causes displacement of people.*
 - ❖ *Backflow of lakes cause floods which destroy farms/houses*
- (d) You intend to carry out a field study around Lake Victoria.

(i) Name two agents of water transport you are likely to observe during the study. (2 marks)

- ❖ *Motor boats*
- ❖ *Canoes*
- ❖ *Ferries*
- ❖ *Waterbus*
- ❖ *Ships*

(ii) Identify two sampling methods you may use during the study. (2 marks)

- ❖ *Random*
- ❖ *Stratified*
- ❖ *Systematic*

8. (a) (i) State three characteristics of sedimentary rocks. (3 marks)

- ❖ *They are non-crystalline.*
- ❖ *They have layers/strata/planes of stratification*
- ❖ *They are formed from sediments/fossils/rock particles/minerals*
- ❖ *They are soft*

(iii) Describe the processes involved in the formation of extrusive igneous rocks. (5 marks)

- ❖ *Earth movements form cracks /fissures across the crustal rocks*
- ❖ *Magma under pressure moves through the cracks.*
- ❖ *The magma flows up the earth's surface*
- ❖ *The lava cools and solidifies forming a hard mass*
- ❖ *This is known as extrusive igneous rock.*

(b) Describe the following processes of rock metamorphism.

(i) Dynamic metamorphism. (2 marks)

- ❖ *This is due to pressure from compressional forces/weight of overlying materials leading to change in grain alignment/rock structure.*

(ii) Thermal metamorphism. (2 marks)

- ❖ *This is due to heat from magma leading to change in the mineral composition of the rock formation of new minerals/recrystallization.*

(c) Explain the importance of rocks under the following headings:-

(i) Energy (2 marks)

- ❖ *Some rocks such as coal are sources of energy used for domestic and industrial purposes*

(ii) Foreign exchange (2 marks)

- ❖ *Some rocks form beautiful features which attract tourists who earn countries foreign exchange.*

(iii) Crop production (2 marks)

- ❖ *Some rocks weather to form fertile soils which boosts crop production.*

(d) You intend to carry out a field study on rocks around your school.

(i) State three hypothesis you would formulate for the study. (3 marks)

- ❖ *The rocks around the school are mainly sedimentary.*
- ❖ *The rocks around the school contain minerals.*
- ❖ *The rocks around the school are quarried.*

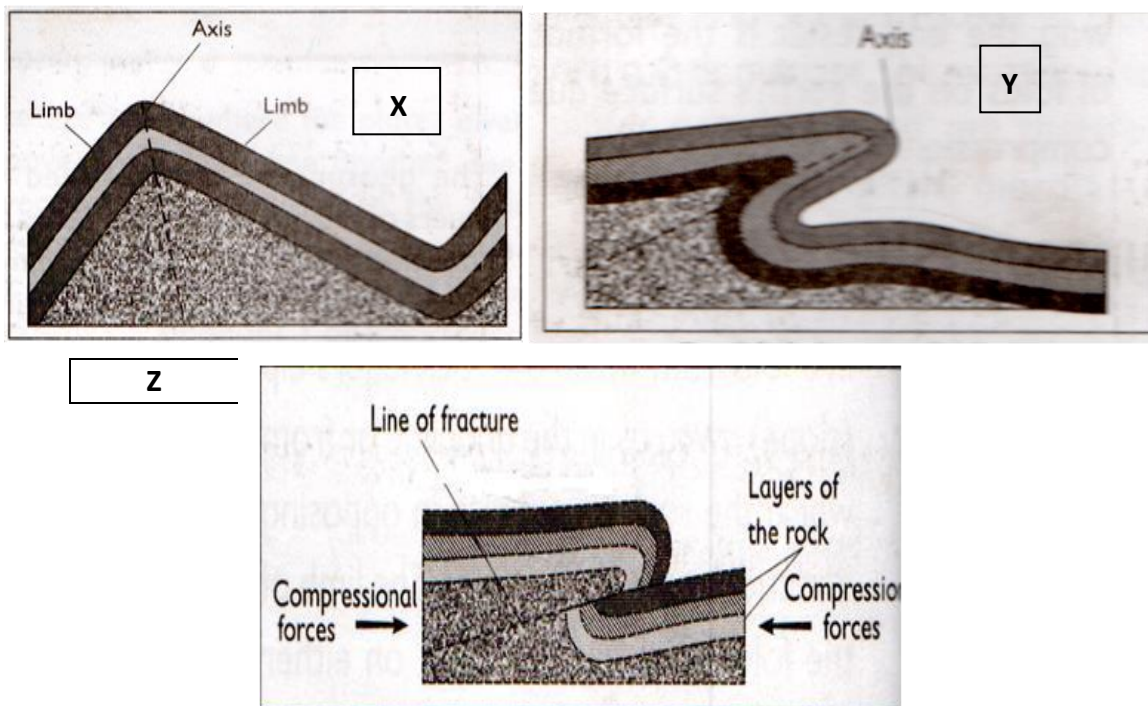
(ii) Give four follow up activities you would carry out after the study. (4 marks)

- ❖ *Displaying of rock samples*
- ❖ *Displaying of photographs*
- ❖ *Laboratory testing*
- ❖ *Report writing*
- ❖ *Group discussion*

9. (a) (i) Give two factors that influence the rate of folding of the earth's crust. (2 marks)

- ❖ *The intensity of the compressional forces*
- ❖ *The flexibility of the crustal rocks*

(ii) Identify the types of folds represented by the diagrams marked X, Y and Z. (3 marks)



X – Assymetrical fold

Y- Overfold

Z – Overthrust fold

(b) (i) Apart from the contraction theory, give two other theories on the formation of fold mountains. (2 marks)

- ❖ *The convection theory*
- ❖ *The plate tectonic theory*

(ii) Describe the processes involved in the formation of the following features.

- Fold mountain though contraction theory. (4 marks)
 - ❖ *During the formation of the earth, the outer part cooled and contracted faster than the interior.*
 - ❖ *Later, the interior also cooled and contracted.*
 - ❖ *The outer part wrinkled in order to fit on the contracting interior, thereby forming upfolds and downfolds.*
 - ❖ *The upfolds formed the fold mountains.*
- Inter- montane plateau. (5 marks)
 - ❖ *The earth's crust composed of soft rocks at the edges and hard rocks at the center, is subjected to compressional forces.*
 - ❖ *The soft rocks are intensively folded forming fold mountains.*

- ❖ *The central hard layer remains unaffected/unfolded*
- ❖ *The central hard layer forms a large/extensive flat land between the fold mountains.*
- ❖ *The large/extensive flat land forms inter-montane plateau*

(c) (i) Name three fold mountains formed during Alpine orogeny. (3 marks)

- ❖ *The Himalayas of Eurasia*
- ❖ *The Atlas mountains of NW Africa*
- ❖ *The Andes mountains of western South America*
- ❖ *The Alps of Southern Europe.*

ii) Explain three ways in which fold mountains influence climate. (6 marks)

- ❖ *Upper slopes of fold mountains experience low atmospheric pressure.*
- ❖ *Windward slopes of fold mountains receive relief rainfall hence they are wet.*
- ❖ *Leeward slopes of fold mountains receive little rainfall hence they are dry/arid*
- ❖ *Fold mountains influence formation of anabatic/katabatic winds.*

10. (a) (i) Apart from colour, name three other properties of soil. (3 marks)

- ❖ *Texture*
- ❖ *Structure*
- ❖ *Porosity*
- ❖ *Mineral content/PH*
- ❖ *Thickness*
- ❖ *Size/shape*

(ii) State four factors which influence the colour of soil. (4 marks)

- ❖ *The type of parent rock*
- ❖ *The chemical composition of the soil*
- ❖ *The content of the organic matter*
- ❖ *The drainage of the area in which the soil is found.*

(b) (i) Give two ways in which soil erosion by water occurs. (2 marks)

- ❖ *Splash erosion*
- ❖ *Sheet erosion*
- ❖ *Rill erosion*
- ❖ *Gulley erosion*

ii) Explain how vegetation prevents soil erosion. (8 marks)

- ❖ *Leaves reduce the force of raindrops thus preventing removal of loose soil particles*
- ❖ *Vegetation increases the rate of infiltration of rain water thereby reducing surface run-off which causes soil erosion*
- ❖ *Roots of plants binds the soil particles together thus reducing the rate of soil erosion.*
- ❖ *Plant cover breaks the force of wind at the ground level there by reducing soil erosion.*
- ❖ *Decayed vegetative matter form humus that binds soil particles together and protects soil from erosion.*
- ❖ *NB; Double ticking area, explanation must be brought out clearly in order to score*

(c) Explain how soil influences the following human activities.

(i) Building and construction. (2 marks)

- ❖ *Some types of soils such as clay/sand are used for making of bricks/ building of houses.*

(ii) Mining (2 marks)

- ❖ *Some soils contain valuable minerals which are exploited by people.*

(d) You are planning to carry out a field study in an area having zonal soils.

(i) Name the types of soil you are likely to study. (2 marks)

- ❖ *Podzols*
- ❖ *Podzolic*
- ❖ *Tundra soils*
- ❖ *Latosols*
- ❖ *Nitosols*
- ❖ *Phenozems*
- ❖ *Pedocals*
- ❖ *chernozems*

(ii) State how you would use the following during the study.

- The PH scale (1 mark)

- ❖ *To test soil acidity/alkalinity*

- Polythene Bag (1 mark)

- ❖ *To carry soil samples*